Adoption of Preventive Behaviours among General Public in Response to Covid 19 Pandemic

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Abstract

The current COVID-19 pandemic is unprecedented, but the global response draws on the lessons learned from other disease outbreaks over the past several decades. A new strain of coronavirus which has been emerged recently and was unknown before the outbreak began in Wuhan, China, in December 2019.[2] It has been named as NCoV in which 'n' is for 'novel' and 'CoV' is for 'coronavirus' that is 'novel coronavirus'.A total of 52 countries in the world have confirmed cases by 28 February according to WHO data, of which about 94% are in China.[5] In March 2020, WHO made the assessment and declare the spread of COVID-19 as a pandemic.[6] As of 20 April 2020, in India, the Ministry of Health and Family Welfare have confirmed a total number of 17,265 cases, 2,547 recoveries (including 1 migration) and 543 deaths in the country.The aim of the study is to assess the adoption of preventive behaviour among general public in Covid 19 pandemic.To explore the differences in adoption of preventive behaviour regarding Novel Corona Virus among general public and to find out the association of adaptive behaviour with selected demographic variables.In this study a Quantitative approach with pre-experimental descriptive survey design was used. Data was collected among the general public those who are residing in Delhi and Delhi- NCR through google form. a total 459 sample are selected through cluster sampling technique and 4 Point Rating scale were used for the data collection.Result showing that 70% of the subjects were having Good Hygiene behaviour, 88% of the subjects having Good Social Distancing Behaviour and in Health related behaviour 33% are in good, 31% in average, 36% in Poor Behaviour. The Mean and SD of Hygiene related is 20.8± 2.8, social distancing related 18.3±2.5, health related 10.5 ±3.6. In association it is found significant with age, religion and occupation and with others variables it found non-significant.It is concluded that in most of the people were having Good Hygiene related Behaviour and Social Distancing Behaviour but most of the people were having Poor Health related Behaviour. So it is concluded that there is need of improving the health related behaviour among general public

Key words: *Adoption, Preventive Behaviour, Covid-19, Pandemic*

Introduction

In human history, it has been observed that interaction of human and animals leads to spillover of viruses into the humans. Several pandemics in the history are great example of this. Coronavirus species, known to cause several respiratory infections among human beings. In the past two decades, it has emerged as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS).[1]A new strain of coronavirus which has been emerged recently and was unknown before the outbreak began in Wuhan, China, in December 2019.[2] It has been named as NCoV in which 'n' is for 'novel' and 'CoV' is for 'coronavirus' that is 'novel coronavirus'.[3]

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On 31 December 2019, China reported a case of pneumonia with unknown aetiology in Wuhan City, Hubei Province of China to the WHO. Within next 3 days the number of cases rise up to 44 who were suffering from pneumonia of unknown aetiology. In a week, the new strain of coronavirus was identified and genetic sequence was shared by the Chinese authorities.[2] Later on it was observed that besides China some of the countries were also present cases who have a travelled history to Wuhan. After a month of first case reported on 30th January 2020, it was seen that approx. 8000 cases were there in China with the mortality of 170 people and still counting.[3] Spread of cases can be easily identified globally. On 30th January 2020, the World Health Organization was declared the outbreak as a public health emergency of international concern. [4]and the first case of coronavirus pandemic in India was reported. A total of 52 countries in the world have confirmed cases by 28 February according to WHO data, of which about 94% are in China.[5] In March 2020, WHO made the assessment and declare the spread of COVID-19 as a pandemic.[6] As of 20 April 2020, in India, the Ministry of Health and Family Welfare have confirmed a total number of 17,265 cases, 2,547 recoveries (including 1 migration) and 543 deaths in the country.[7]

COVID-19 is an infectious disease and a pandemic affecting many countries globally. It spread from person to person through droplet infection while speaking, coughing or sneezing and affects the respiratory system of human.[1]

COVID-19 affects all age groups and primarily put the older persons and those who are living with comorbidities (such as high blood pressure, diabetes, lung or heart problems or cancer) at high risk. The most common and mild symptoms of COVID-19 are fever, dry cough, and tiredness. Some less common symptoms which can also be seen among some patients include aches and pains, nasal congestion, headache, conjunctivitis, sore throat, diarrhoea, loss of taste or smell or a rash on skin or discoloration of fingers or toes. Infection is mild in the first stage which can increase gradually and may require medical assistance. It has been observed that around 1 out of every 5 people who gets COVID-19 becomes seriously ill and develops difficulty breathing.[1]

According to the WHO's guidelines and situational report from time to time, various approaches have been made to deal with the pandemic. WHO stated some facts related to COVID-19, it focuses on reduce the human contact as it can lead to spread of the virus among community.[7]it has an incubation period of 2-14 days. Till now no specific treatment has been found for the disease, and only symptomatic treatment is given to all the patients all over the world because of the mutant strain. The coronavirus pandemic leads to a large mortality and morbidity in the world population.[4]

Across the globe, it is observed that the only way to deal with the pandemic is preventing the spread of coronavirus. It affects all the group of society, transmitting from human contact; it put a great challenge to the health care authorities. Whether it is general population or health care worker the prevention guidelines should be followed by all to combat the diseases condition. Being the frontline workers, the health care professionals are at great risk to develop the coronavirus disease.[3] Preventive measures such as frequent hand washing, safe distancing with the patient, is sometimes compromised at their level while providing the health services to the people. The various research studies have reported that the novel coronavirus has great impact on health and causes mortality across the world. Studies shows that till now no treatment have been specified to deal with COVID-19 and only prevention is the key to deal with the deadly pandemic.[9-11] Self- isolation, social distancing and hygiene promotion should be strictly followed by each individual to prevent the spread of coronavirus among the communities and in health care professionals as well.[2-3]

Background

Emerged as a pneumonia case with an unknown etiologic this coronavirus has turned into a pandemic which is responsible for high mortality and morbidity.[12] Till date approx. 20 lakh people are affected, 2 lakhs death and 215 countries or states affected from COVID-19.[13] The virus which was isolated from the china, now affecting every aspect of life across the globe. The COVID-19 outbreak is a unique and unprecedented scenario for many workers; most of the health care workers and people who are serving during this difficult

phase may unfortunately experience avoidance by their family or community owing to stigma or fear.[14]

The covid-19 pandemic made the life stagnant and fearful in an exceptional way. Various researches are going on to test the treatment and vaccines to prevent further death.

Not only the general public but the frontline workers in this pandemic, the health care professionals who are in direct contact of the diseased person are at much more risk and resulting in increase in mortality and morbidity if not follow the standard precaution measures. Hand hygiene which is considered as one of the essential means to prevent the spread of such infections. In 1983, Semmelweis focused on reduction of health care-associated infections by cleansing contaminated hands with antiseptic products. Several factors are involved in hand hygiene behavior such as attitude, perceived social norm, perceived behavioral control, perceived risk for infection, hand hygiene practices.[12]

Preparedness and response guided by WHO focused on the adoption of preventive measures by general public as well as the health care workers. Because the Standard precautions are meant to reduce the risk of transmission of blood and body fluid borne and other pathogens from both recognized and unrecognized sources. WHO recommended use of mask, frequent and thoroughly cleansing of hand with soap and water; avoid touching the eyes, nose and mouth; bend the elbow or use of tissue while coughing or sneezing and if tissue is used proper and timely disposed of the tissue and washing of hand thereafter as it is spread through droplets infection, it is advised to keep a safe distance of 1 meter from others to prevent the occurrence of disease. WHO strongly suggest the avoidance of gatherings or crowd places to reduce the spread of virus in community. Besides this, various studies have shown that quarantine and self-isolation should be followed strictly by the general public and health care worker to prevent the human to human transmission. Proper hygiene of hands, self and of the surroundings in which person is living is the prime approach to deal with the virus. Any person who is having mild symptoms should seek the medical care as soon as possible for early detection and treatment.[13]

Irrespective of the person's involvement in dealing the disease condition, all the individuals must adhere to the preventive measures and correct methods of hand washing and other ways to reduce the spread of infection from human to human.

The current study is conducted with the aim of measuring the adoption of preventive behaviours among the general public during the Novel Corona Virus. The main focus will be on hygiene related behaviour, social distance behaviour and health related behaviour. The study will help in exploring about the various preventive measures taken by the general public to deal with this pandemic. The result can also conclude the awareness among the general public and effectiveness of preventive education by government regarding the pandemic.

Material and Methods

In this study a Quantitative approach with pre-experimental Descriptive survey design was used. Data was collected among the general public those who are residing in Delhi and Delhi- NCR through google form. A total 1000 sample through probability cluster sampling were selected from the population out of which 459 subjects were match with the inclusion criteria and rest of the subjects were excluded. The inclusion were criteria were: 1. Those Who are willing to participate 2. Those Who are able to read English. 3.Those Who have android phones.4-pointRating scale (Hygiene related, Social Distancing related, Health related Behaviour items) were used to explore the adaptive behaviour regarding Novel Corona Virus. The tool was validated by the various experts and the tool were also found reliable for the data collection.

Result Findings

Table 1 Frequency distribution of Demographic variable (N=459)

SR. NO.	VARIABLE		n (%)
1	AGE in Year	15-25	340 (74.1)
		26-35	102 (22.2)
		36-45	11 (2.4)
		46-55	6 (1.3)
	Mean ± SD		23.5 ± 6.0
2	GENDER	Male	131 (28.5)
		Female	326 (71.0)
		Prefer not to say	2 (0.4)
3	RELIGION	Hindu	428 (93.2)
		Muslim	15 (3.3)
		Sikh	5 (1.1)
		Christian	11 (2.4)
4	EDUCATION	10TH	6 (1.3)
		12TH	150 (32.7)
		Graduate	198 (43.1)
		Post graduate or above	105 (22.9)
5	OCCUPATION	Student	178 (38.8)
		Teacher	31 (6.8)
		Nursing Profession	183 (39.9)
		Doctor	6 (1.3)
		Other (Non-Medical)	61 (13.3)
6	PLACE OF LIVING	Delhi	226 (49.2)
		NCR	92 (20.0)
		Haryana	89 (19.4)
		Other states	52 (11.3)
7	SOURCE OF INFORMATION	Internet	245 (53.4)
		Television/Radio	131 (28.5)
		Health Professional	43 (9.4)
		Newspaper	13 (2.8)
		Any other	27 (5.9)

In the present survey, a total of 459 subjects participated. Result of the survey shows that about 74% of the subjects were from the age group 15-25 and only 1.3% of the subjects were from 46-55 age group. The mean age of the subjects was 23.5±6.0. Almost 71% of the subjects were females, 29% were males and rest 0.4% were preferred not to say anything about their gender. Most of the subjects were Hindu (93.2%), followed by the Muslim(3.3%), Christian(2.4%) and Sikh(1.1%). As per the education status of the subjects was concerned, 43% of the subjects were graduate and 33% were 12^{TH} passed students and only 22% were post graduate and above. 39% and 40% of the subjects were students and nursing professionals, 6.8 were the teachers, 1.3 were doctors and 13.3 belong to the other non-medical professions.

Around half of the subjects (49.2%) belong to Delhi, while 20% belong to NCR, 19.4% from Haryana and rest 11% were from different states of the country. Half of the subjects (53%) obtained the information from internet, one-third (29%) from television/radio only 9.4% from health professionals and least of the subjects(3%) from newspaper.

ADAPTIVE PREVENTIVE MEASURES

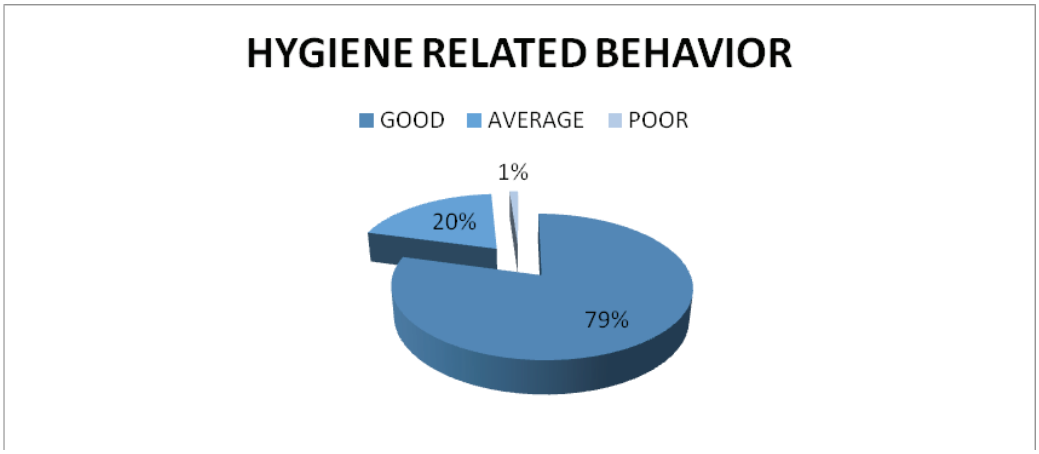

Fig 1: Pie Graph showing Hygiene related Behaviours of General Public

According to the survey conducted in the general population, most of the subjects (79%) were having good hygiene related behaviour while only 1% of the subjects were having poor behaviour.

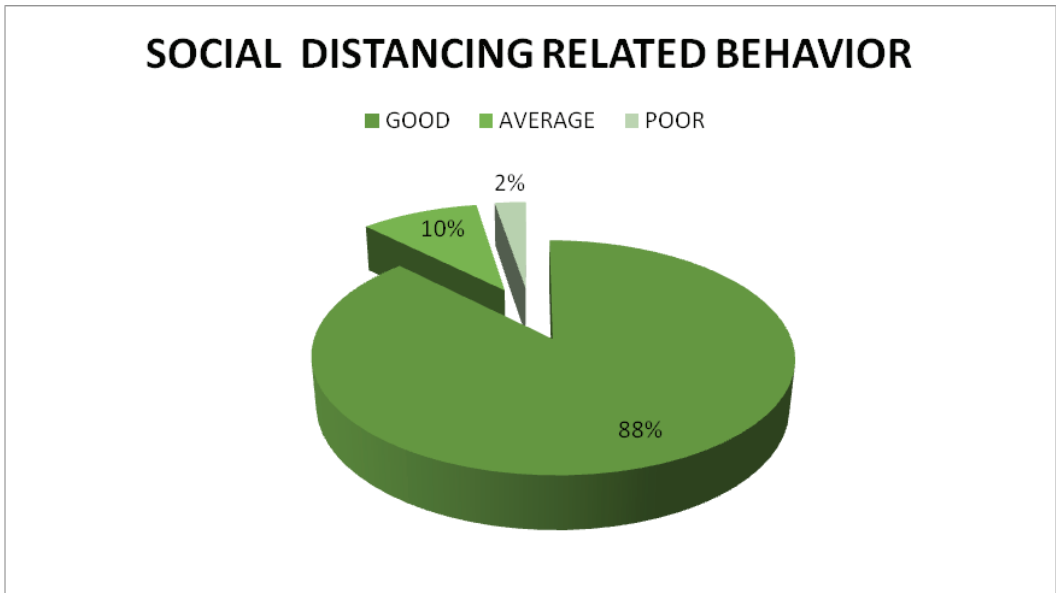

Fig2: Pie chart showing Social Distancing Related Behaviour among General Public

It also shows that around 88% of the subjects were having good social distancing behaviour, followed by 10% having average and 2% having poor social distancing.

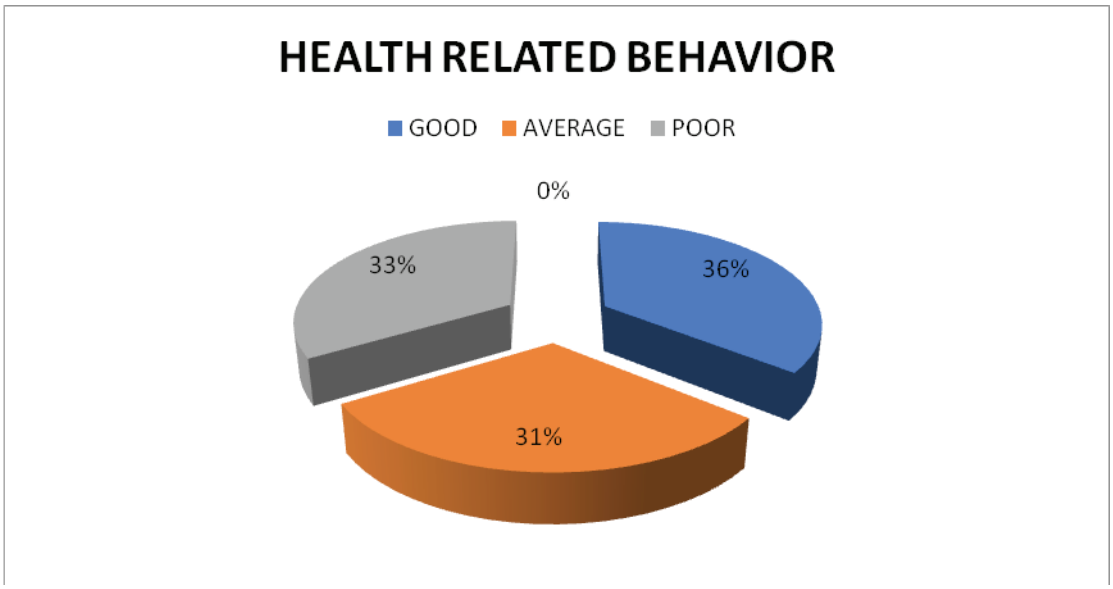

Fig3: Pie Chart showing Health Related Behaviour among General Public

As so far, health related behaviour of the subjects is concerned, the total number of subjects are fallen approximately equally in good (33%), average (31%) and poor (36%) behaviour.

Table 2: Level of preventive measures among general population

N=459

S.No.	Preventive measures		f (%)	Mean ±SD (Score)
1	Poor (15-30)		04(0.9)	49.7 ± 6.4
2	Good (31-45)		113 (24.6)	
3	Excellent (46-60)		342 (74.5)	

The survey concludes that among the 459 subjects 74% were having excellent behaviour in terms of adaptive preventive measures, while 25% were having good behaviour and only 0.9% of the subjects were having poor adaptive behaviour towards the preventive measures.

Table 3: Range and mean score of domain wise preventive measures among general populationN= 459

S. No.	Domains	No. of items	Range	Mean ±SD (Score)
1.	Hygiene related	6	18	20.8 ± 2.8
2.	Social distancing	5	15	18.3 ± 2.5
3.	Health related	4	12	10.5 ± 3.6

Among the various behaviour from adaptive preventive measures in the general public, hygiene related behaviour is more evident (20.8 ± 2.8), followed by the social distancing behaviour (18.3 ± 2.5) and health related behavior (10.5 ± 3.6).

Table 4: Association of personal variables with preventive measures among general public N= 459

Sr. No	VARIABLE	Preventive measures			Fisher Exact test	Df	p-value
		GOOD	AVERAGE	POOR			
1	AGE						
	15-25	1	74	265	16.60*	6	0.009
	26-35	2	35	65			
	36-45	1	3	7			
	46-55	0	1	5			
2	GENDER						
	Male	2	30	99	4.707	4	0.436
	Female	2	82	242			
	Prefer not to say	0	1	1			
3	RELIGION						
	Hindu	2	104	322	17.151*	6	0.009
	Muslim	1	7	7			
	Sikh	0	0	5			
	Christian	1	2	8			
4	EDUCATION						
	10TH	0	0	6	10.517	6	0.08
	12TH	0	38	112			
	Graduate	2	41	115			
	Post graduate or above	2	34	69			
5	OCCUPATION						
	Student	0	46	132	16.011*	8	0.027
	Teacher	0	9	22			
	Nursing Profession	2	37	144			
	Doctor	1	0	5			
	Other (Non-Medical)	1	21	39			
6	PLACE OF LIVING						
	Delhi	0	56	170	9.143	6	0.111
	NCR	2	20	70			
	Haryana	0	22	67			
	Other states	2	15	35			
7	SOURCE OF INFORMATION						
	Internet	1	67	177	13.495	8	0.068
	Television/Radio	0	25	106			
	Health Professional	2	12	29			
	Newspaper	0	2	11			
	Any other	1	7	19			

*significance at p level<0.05

As per the results of the survey it was concluded that, among various personal variables of the general public only some of them [**Age (Exact value: 16.60 at p value- 0.009); Religion (Exact value: 17.151 at p-value- 0.009); Occupation (Exact value:16.011 p-value- 0.027)]** are significantly associated with the adaptive preventive measures.

All other personal variables didn't have significant association with the adaptive preventive measures.

Discussion

In this study it has been shown that in preventive related behaviour70% of the subjects were having Good Hygiene related behaviour, 88% of the subjects having Good Social Distancing Related Behaviour and in Health-related behaviour 33% are in good, 31% in average, 36% in Poor Behaviour. This study resembles with the previously conducted study on awareness, attitude and action related behaviour regarding Covid 19 among adults in US outbreak, the result of this study shown that More than half of patients (58.6%) reported that the coronavirus had caused them to change their daily routine "a lot," whereas 78.1%. After multivariable adjustment, these patient factors were no longer associated with changes to either daily routine or existing plans. In contrast, respondents who were interviewed later in the 1-week survey period were more likely to report that their daily routine had changed "a lot".

Conclusion

It is concluded that in most of the people were having Good Hygiene related Behaviour 70% and Social Distancing Behaviour 88%but most of the people were having Poor Health related Behaviour36%. So it is concluded that there is need of improving the health related behaviour among general public in Covid 19 Pandemic.

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Ethical Clearance: The investigator obtained ethical clearance from the Institutional ethics committee before collecting data and has taken informed written consent from each participant.

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